



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

TARDEC's Vehicle Electronics & Architecture Group

Christopher Ostrowski, Vehicle Electronics & Architecture AD

POC: Nikia Williams, Electrical Engineer

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 16 DEC 2010		2. REPORT TYPE N/A		3. DATES COVERED -	
4. TITLE AND SUBTITLE TARDECs Vehicle Electronics & Architecture Group				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Christopher Ostrowski; Nikia Williams				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) US Army RDECOM-TARDEC 6501 E 11 Mile Rd Warren, MI 48397-5000, USA				8. PERFORMING ORGANIZATION REPORT NUMBER 21422	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) US Army RDECOM-TARDEC 6501 E 11 Mile Rd Warren, MI 48397-5000, USA				10. SPONSOR/MONITOR'S ACRONYM(S) TACOM/TARDEC	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S) 21422	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited					
13. SUPPLEMENTARY NOTES The original document contains color images.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 5	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



VEA Vision and Mission



. VEA Vision Statement:

- *VEA will be the first choice to technology and engineering expertise for vehicle electronics integration, research and application – today and tomorrow.*

VEA Mission Statement:

- *VEA develops, integrates, and sustains the right vehicle electronics technology solutions for all manned and unmanned ground systems and ground combat systems to improve current force effectiveness and provide superior capabilities for the future force. Key vehicle electronics technology areas include power management and distribution, controls and displays, inter-vehicular data networks, computers, software, and electronics packaging. VEA will develop and evaluate existing and emerging technologies, standards, vehicle specifications, and vehicle systems.*

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

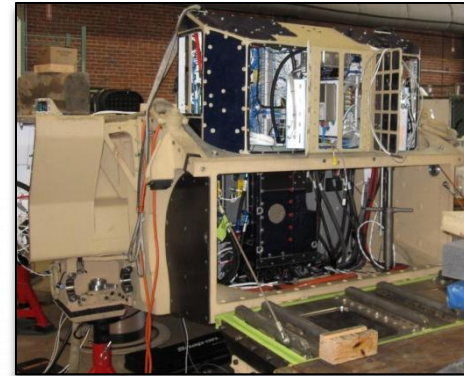
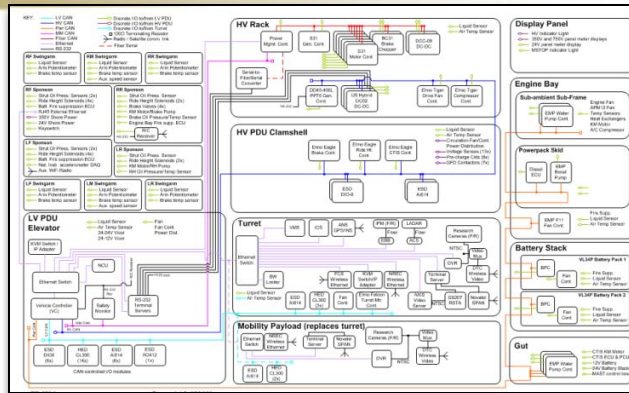


Key Focus Areas



- Power Architecture & Standards
- High and Low Temp Power Electronics
- Onboard Vehicle Management, Microgrid, and Hybrization
- Common and Open Vehicle Electronic Architectures & Frameworks
- Plug and Play Architectures
- Deterministic High Speed Data Bus
- Embedded Computing Resources in Electronic Components
- Advanced On-board Computing Technologies
- Condition Based Maintenance

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



- **Multiple CAN Busses & Gigabit Ethernet (GbE)**
- **COTS Data Radios – 802.11 Based**
- **Extensive COTS Components**
- **Max Speed - 50 mph**
- **Generator Output - 197 hp**
- **Battery Energy - 21.8 kW-hr**
- **Battery Max Power - 282 hp**
- **Power/Weight Ratio - 112 hp/ton**
- **Peak Torque - 41,368 ft-lb**
- **Vertical Obstacle - 39 in**
- **Trench - 39 in**
- **Fording - 20 in**
- **Gross Vehicle Weight - 9.3 ton**
- **Overall Length - 182 in**
- **Overall Width - 98 in**



Multiple CAN busses & Gigabit Ethernet as vehicle backbone



Vehicle Intelligence Areas of Interest



- **Vehicle Networks:** Ad-hoc, Inter-vehicular, Modular
 - Network Management: vehicles joining/leaving the group
 - System and Electrical Architectures
 - Security
 - Operating Environments
- **Wireless Technologies**
 - Sensor information sharing between vehicles and vehicle to Infrastructure
 - Digital Short Range Wireless Communications Integration
 - Wireless Security and Anonymity